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Remarks

Reconsideration and allowance of the subject application are respectfully solicited.

Claims 1, 3-8, 10-15, 17-21, 23-26, 29-32 and 35 are now pending in the application, with Claims 1, 15, 26, 29 and 32 being independent. Claims 4-8, 12, 17-21 and 25 have been withdrawn from consideration by the Examiner. Claims 2, 9, 16, 22, 27, 28, 33 and 34 have been cancelled without prejudice. Claims 1, 3, 8, 10, 11, 13, 15, 18, 23, 24, 26, 29-32 and 35 have been amended herein.

Applicants note with appreciation the indication that Claims 9-11, 13, 22-24 and 29-31 recite allowable subject matter. These claims were objected to for being dependent upon rejected base claims. Among those claims, Claim 29 has been rewritten in independent form, thus being in condition for allowance. Independent Claim 1 has been amended to generally incorporate the features of dependent Claims 2 and 9. Amended Claim 1 does not recite that the information obtaining means “automatically” obtains the nip position information, but is still believed to recite allowable subject matter. In addition, Claim 15 has been amended to generally include the features of allowable Claim 22. Like Claim 1, the term “automatically” has not been included in Claim 15. Further, Claim 15 uses the phrase --passed out-- rather than “slipped out”. Nevertheless, independent Claims 1, 15 and 29 are believed to be in condition for allowance.

Claims 1, 2, 14-16 and 26-28 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,602,571 (Suda et al.). Claims 32-35 were rejected under § 102 as being anticipated by U.S. Patent No. 5,982,400 (Yokoi et al.). Claim 3 was

rejected under 35 U.S.C. § 103 as being unpatentable over Suda et al. in view of U.S. Patent No. 5,368,403 (Broder et al.). These rejections are respectfully traversed.

Independent Claims 1 and 15 are believed to be allowable for the reasons discussed above.

As is recited in independent Claim 26, the present invention relates to a printing apparatus having printing means that executes printing on a print medium transported along a transportation path. The apparatus includes upstream transporting means, downstream transporting means, first detecting means, second detecting means, measuring means and storage means. The upstream transporting means is arranged upstream of the printing means in the transportation path for transporting the print medium. The upstream transporting means includes a transportation roller driven by predetermined driving means and a pinch roller cooperatively sandwiching the print medium between the pinch roller and the transporting roller. The downstream transporting means is arranged downstream of the printing means in the transportation path for transporting the print medium. The first detecting means is arranged upstream of the upstream transporting means to detect the print medium passing through a predetermined position. The second detecting means detects the print medium passing through a nip portion between the transportation roller and the pinch roller. The measuring means measures a transported distance after an end of the print medium passes through the predetermined position until it passes through the upstream transporting means based on results detected by the first detecting means and the second detecting means. The storage means stores information related to the transported distance after the end of the print medium passes through the

predetermined position until it passes through the upstream transportation means based on a result measured by the measuring means.

As is recited in independent Claim 32, the present invention relates to a printing apparatus including a transportation roller to be driven by driving means through a gear train and a pinch roller which sandwiches a print medium between the pinch roller and the transportation roller in a cooperative manner. The apparatus also includes printing means, transporting means, control means, detecting means and storage means. The printing means performs printing onto the print medium. The printing means is placed downstream of the transportation roller in a transportation path. The transporting means transports the printing medium. The transporting means is placed downstream of the printing means in the transportation path. The control means controls the transportation roller and the transporting means to repeat a drive of and a stop after transportation of a predetermined transportation amount by turns, and further controls the printing means to perform printing while the transportation roller is in a stop condition. The detecting means detects an end of the print medium passing through a predetermined position upstream of the transportation roller. The storage means stores an interval between the predetermined position and a nip portion between the transportation roller and the pinch roller. The control means controls the driving means such that, while transporting by the predetermined transportation amount, when a transportation amount after the end of the print medium is detected by the detecting means exceeds a distance stored in the storage means, an excessive transportation amount of transporting the printing medium beyond a transportation amount caused by idling of the transportation roller due to a backlash of the

gear train when the end of the print medium passes through the nip between the transportation roller and the pinch roller in addition to the predetermined transportation amount is effected, thereby performing printing of a position continuous to an image previously printed by the printing means.

Suda et al. relates to a sheet feeding system in which, as understood by Applicants, sensor 22 detects an end of a sheet passing through a predetermined position upstream of a nip of a pair of rollers 7, 8. Sensor 22 does not detect the end of the sheet passing through the nip of the pair of rollers 7, 8. Accordingly, Suda et al. cannot disclose or suggest first detecting means arranged upstream of upstream transporting means to detect a print medium passing through a predetermined position as well as second detecting means for detecting the print medium passing through a nip portion between a transportation roller and a pinch roller, as is recited in independent Claim 26. Nor can Suda et al. disclose or suggest the measuring means and storage means recited in independent Claim 26.

Thus, Suda et al. fails to disclose or suggest important features of the present invention recited in independent Claim 26.

Yokoi et al. relates to a sheet feeding apparatus for controlling feeding devices to feed a sheet until a leading end of the sheet passes through a nip of the second feeding device and exceeds the nip by a predetermined distance. However, Yokoi et al. is not believed to disclose or suggest at least control means that controls driving means such that, while transporting by a predetermined transportation amount, when a transportation amount after the end of the print medium is detected by detecting means exceeds a distance

stored in storage means, an excessive transportation amount of transporting the printing medium beyond a transportation amount caused by idling of the transportation roller due to a backlash of a gear train when the end of the print medium passes through a nip between the transportation roller and a pinch roller in addition to the predetermined transportation amount is effected, thereby performing printing of a position continuous to an image previously printed by printing means, as is recited in independent Claim 32.

Thus, Yokoi et al. fails to disclose or suggest important features of the present invention recited in independent Claim 32.

The remaining citations have been reviewed, but are not believed to remedy the deficiencies of the primary references discussed above with respect to independent Claims 26 and 32.

Thus, independent Claims 1, 15, 26, 29 and 32 are patentable over the citations of record. Reconsideration and withdrawal of the §§ 102 and 103 rejections are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 15, 26, 29 and 32. Dependent Claims 3-8, 10-14, 17-21, 23-25, 30, 31 and 35 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and reduce the number of issues, and is believed to clearly place this application in condition for allowance. This Amendment was not earlier presented because

Applicants earnestly believed that the prior Amendment placed the subject application in condition for allowance. Accordingly, entry of this Amendment under 37 CFR 1.116 is respectfully requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the objection and rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


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